REMARKS

The office action of September 28, 2010, has been carefully considered.

It is noted that claims 1, 2, 4-7 and 12-14 are rejected under 35 U.S.C. 103(a) over the patent to Westervelt et al. in view of the patent to Hatton et al.

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) over Westervelt et al. in view of Hatton et al., and further in view of the patent to Yamamura et al.

In view of the Examiner's rejections of the claims, applicant has canceled claims 13 and 14, and amended claim 1.

It is respectfully submitted that the claims presently on file differ essentially and in an unobvious, highly advantageous manner from the methods disclosed in the references.

The patent to Westervelt et al. discloses a method of making a void-free non-cellulose electrical winding. In Westervelt et al. a liquid insulation composition is formed on wires by a wet-

winding process. In this process the wire is immersed in the liquid insulation and after that the insulation is solidified, i.e., "the cure is advanced to a solid, non-tacky stage" by electromagnetic radiation. However, the liquid insulation is not fully cured by electromagnetic radiation, but only to an extent that the outer layers of the insulation material are solidified (see column 2, lines 48-60).

The final or full cure is only achieved afterwards by heating the windings and insulation, whereby both the partially cured solid insulation and any still liquid or tacky insulation are advanced to final cure (see column 3, lines 8-13). This is also disclosed in column 5, lines 62 et seq., wherein it is explicitly stated that the resin insulation "has been advanced to a dry, non-tacky state, but the cure has not been advanced to a final cure. This will be accomplished thermally in a suitable postcure operation after the coil has been completed."

Also, in column 6, lines 44-47 of Westervelt et al. it is defined that "the term 'solidified" means that the curing of the resin has been advanced to a solid, non-tacky state, firm enough to support a conductor turn, but short of final cure." Additionally, on page 6, lines 49-51 it is stated that "final cure

may be accomplished thermally in a suitable post-curing step." Then it is stated that "it is important that the resin becomes sufficiently hardened as it advances from the intermediate cure to a final cure, to ensure that it provides mechanical strength to maintain the integrity of the resulting structure" (see column 6, lines 51-55).

Thus, from this reference the skilled artisan could only derive a process in which the insulation material is applied to a wire and then partially cured to solidify the insulation material which afterwards needs to be subjected to a post-cure, in order to fully or final cure the insulation material.

There is nothing in Westervelt et al. that suggests that the process might work with only radiation curing, but without thermal post-cure. Quite to the contrary, since both these curing steps (radiation curing and thermal curing) consume a lot of energy, one skilled in the art would have expected to at least find some kind of mention in this reference that either of the two steps could be omitted, if that were possible. Thus, the teachings of Westervelt et al. lead away from using only a single curing step.

The presently claimed invention recites a single curing step

with ultraviolet radiation. Applicant submits that this is not obvious to one skilled in the art based on the teachings of Westervelt et al. since Westervelt et al. require two curing steps for full curing.

Hatton et al. disclose epoxy resins that might be cured by radiation <u>or</u> by the application of heat (see page 9, line 13 and page 13, line 19). There is nothing in the teachings of Hatton et al. that suggests using both these curing mechanisms in the same process; in fact, one skilled in the art would refrain from doing so because both curing mechanisms consume a lot of energy. Thus, the skilled artisan would understand the teachings of Hatton et al. only in such a way that either one of the possible curing mechanisms would be sufficient to achieve final cure. This alone would keep one skilled in the art from combining the teachings of Hatton et al. with Westervelt et al. The non-obviousness of such a combination is even more apparent when one considers the very specific insulation materials which are being used by Westervelt et al., and not just any arbitrary epoxy resin (see column 6, lines 60 et seq.).

However, there is even more evidence that one skilled in the art would not combine the teachings of these two references,

namely Hatton et al. give the skilled artisan no hint that the compositions described therein could be successfully used in coil coating. Hatton et al. twice mention what the curable compositions of Hatton et al. could be used for (see page 9, lines 14-17 and page 13, lines 16-19). In both these passages there are mentioned many possible uses (as adhesives, as primers for adhesives, as laminating and casting resins, as molding compositions, as putties and as sealing compounds, as potting and insulation compounds for the electrical industry, but especially as coatings).

What a person skilled in the art could derive from these uses is that the compositions of Hatton et al. can be used quite universally; however, what he also *must* derive is that the compositions of Hatton et al. would not be usable for coil coating. The reason for this is that coil coating demands very specific properties of the applied compositions, which are different from nearly all other possible applications. Coil coatings need to be able to fix the various windings of the coil in order to prevent their deformation, this is especially imperative in the case of self-supporting coils, otherwise the deformations would cause a change in inductivity, and thus lead to possible failure of the product in which the coil is used. Apart from this, obviously the coil coatings must be insulators,

otherwise the coils would short circuit. Furthermore, the coil coatings must be resistant to outside influences, such as chemical and mechanical attack, so that the coil remains protected.

This specific set of properties needed for coil coating compositions, however, is not the same as the properties that would be required from the compositions that are employed in the uses recited by Hatton et al. The only reference by Hatton et al. to products of the electronic industry is potting and insulation compounds, which are understood by a person skilled in the art as potting compounds that are at the same time insulative. This is, however, something completely different than coil coating. Potting compounds are compounds that are filled into a vessel into which a device(electronic) has been put beforehand.

Applicant has attached an excerpt from a book entitled "Polymers for Electrical Insulation", in which casting and potting compounds are described on pages 47-57. Therein it is described that epoxies can be used as casting and potting compounds - which is in accordance with the Hatton et al. reference. On page 56 their advantages and disadvantages are described. Therein it is stated that epoxies provide some good properties but that their disadvantage arises from their high modulus and low elongation to

break, resulting in low thermal shock resistance and brittleness, which is also illustrated by a figure on page 62 of the book. These two disadvantages, however, are such that the skilled artisan would be inclined not to use epoxy resins for coil coatings, as obviously coil coatings should have high thermal shock resistance and as little brittleness as possible.

In view of these reasons, applicant submits that one skilled in the art would have no though to combine the teachings of Westervelt et al. and Hatton et al. because from the teachings of these two references and his technical background knowledge the person of ordinary skill would have had no reasonable expectation of success. It is only the teachings of the present invention that surprisingly show that, contrary to common knowledge and expectations, it is possible to use the described oxirine based binders in a method for producing a coil.

In view of these considerations it is respectfully submitted that the rejection of claims 1, 2, 4-7 and 12-14 under 35 U.S.C. 103(a) over a combination of the above-discussed references is overcome and should be withdrawn.

The patent to Yamamura et al. discloses compositions for

forming three-dimensional objects by photo-fabricating, i.e. the compositions are applied, then exposed to light and after that, any uncured parts are washed away so that a three-dimensional object results. There is no teaching concerning the producing of wire coils as recited in the claims presently on file.

The Examiner combined Yamamura et al. with Hatton et al. and Westervelt et al. in determining that claims 10 and 11 would be unpatentable over such a combination. Applicant respectfully submits that none of these references, nor their combination, teach a method for producing a wire coil as recited in the claims presently on file.

In view of these considerations it is respectfully submitted that the rejection of claims 10 and 11 under 35 U.S.C. 103(a) over a combination of the above-discussed references is overcome and should be withdrawn.

Reconsideration and allowance of the present application are respectfully requested.

Any additional fees or charges required at this time in connection with this application may be charged to Patent and

Trademark Office Deposit Account No. 02-2275.

Respectfully submitted,

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